REMARKS

Status of the claims

Prior to this amendment, claims 2 - 10 and 12 - 45 were pending. Claims 1, 3, 5-7, 9-15, 18-25, and 43-45 are canceled without prejudice. Applicants specifically reserve the right to pursue one or more of these claims in one or more continuation or divisional applications. Claim 2 is amended. Support for the amendment is found in the claim as filed. Claim 4 is amended to be written in independent form. Claim 8 is amended so that it is no longer multiply dependent. Claim 42 is amended to delete language found objectionable by the Examiner and to specify the inhibitory activity of the fusion protein. Support for the amendment is found at least at paragraph [0161] and in the claims as filed. New claim 46 finds support at [0068]. Support for new claim 47 is found at least in paragraph [0161]. New claims 48 and 49 find support in the specification and claims as filed.

Method claims 26 - 35 and 38 - 41 are withdrawn to be considered for rejoinder at such time as allowable composition claims are identified.

Rejections under 35 U.S.C. §112, second paragraph

Claims 42-45 are rejected under 35 U.S.C. 112, second paragraph as allegedly being indefinite. Without necessarily agreeing with the Examiner, Applicants have amended claim 42 to more clearly recite the inhiborory features of the claimed fusion protein. In addition, claims 43-45 have been canceled. Thus, their rejection is moot. As such, Applicants respectfully request the Examiner to withdraw this rejection.

Rejections under 35 U.S.C. §112, first paragraph

Claims 42-45 are rejected under 35 U.S.C. 112, first paragraph as allegedly failing to comply with the written description requirement. Without necessarily agreeing with the Examiner, Applicants have amended claim 42 to more clearly recite the inhiborory features of the claimed fusion protein. In addition, claims 43-45 have been canceled. Thus, their rejection is moot. As such, Applicants respectfully request the Examiner to withdraw this rejection.

Rejections under 35 U.S.C. §103

Claims 2 and 8 were rejected under 35 U.S.C. § 103 as being obvious over AU-B-13288/88 (the "Australian patent"), further in view of Bingle *et al.*, *Thorax* 51:1273 - 1274 ("Bingle"). Applicants appreciate the Examiner's reconsideration of this rejection.

Currently, Claims 2, 8 and 42 are rejected under 35 U.S.C. § 103 as being obvious over Urwin et al. (Planta, 1998, 204, 472-479) andWO 92/10575 (1992) in view of Bingle et al. (Thorax, Dec. 1996, vol. 51/12, pages 1273-1274).

Applicants respectfully traverse.

The WO reference and Urwin disclose fusion proteins. However, neither of the references teaches or suggests the use of alpha 1-antitrypsin and/or SLPI. Bingle has been described previously. This reference discloses potential combination therapy of SLPI and α-PI in the treatment of various disorders. As has been discussed before., it is agreed that Bingle neither teaches nor suggests fusing SLPI to AAT to create the singular molecular entity fusion proteins of Applicants' claims 2, 8 and 42. In addition, Applicants submit that Bingle fails to disclose a fusion of functionally active fragments of these molecules.

In contrast, the present claims are directed to a fusion protein having a funcationally active portion of alpha 1-antitrypsin and a functionally active portion of secretory leukosyte protease inhibitor, wherein said fusion protein has alpha 1-antitrypsin protease inhibitor activity and secretory leukocyte protease inhibitor activity. Both of the activities are found in a single fusion protein and are derived from the functionally active portion of the respective individual protease inhibitors. In addition, claim 42 recites that the functionally active portion of alpha 1-antitrypsin comprises-an elastase inhibitory domain and the functionally active portion of secretory leukocyte protease inhibitor comprises an elastase inhibitory domain.

As the Examiner is aware there are three requirements to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the cited references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); M.P.E.P. § 2142; *Cf. Al-Site Corp. v. VSI Int'l Inc.*,

174 F.3d 1308, 50 U.S.P.Q.2d 1161 (Fed. Cir. 1999) Moreover, the prior art must suggest the specific modification that is necessary in order to arrive at the claimed invention. *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 934, 15 U.S.P.Q.2d 1321, 1323 (Fed. Cir. 1990), cert. denied, 498 U.S. 920 (1990)

Second, the proposed modification of the prior art must have a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *Amgen, Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 1209, 18 U.S.P.Q. 1016, 1023 (Fed. Cir. 1991), *cert. denied*, 502 U.S. 856 (1991); *In re Erlich*, 22 U.S.P.Q. 1463, 1466 (Bd. Pat. App. & Int. 1992); *In re Dow Chem.*, 837 F.2d 469, 473, 5 U.S.P.Q.2d 1529, 1531 ("Both the suggestion and the expectation of success must be found in the prior art, not the applicant's disclosure.").

And third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); M.P.E.P. § 2142.

Here, Applicants submit that the prior art references alone or in combination fail to teach each element of the claims. Specifically, there is no teaching in the WO reference, Urwin or Bingle either alone or in combination of a fusion protein of functionally active portion of alpha 1-antitrypsin fused with functionally active portion of SLPI. In fact, none of the cited references mention using co-administration of functionally active *portions* of the two molecules either fused or separate. Moreover, there is no teaching of fusing the two functionally active portions. While the WO reference and Urwin do disclose fusion proteins of certain molecules, there is no mention of SLPI or alpha 1-antitrypsin or functionally active fragments of the two. Again, Bingle fails to disclose functionally active fragments of the two molecules. Also, Bingle fails to recite a fusion protein of these two molecules. As such, the cited references fail to disclose each of the claim elements.

Accordingly, Applicants respectfully request the Examiner to withdraw this rejection.

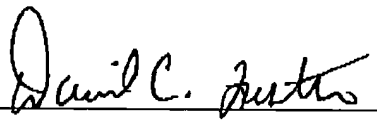
CONCLUSION

Applicants submit that the present claims are in condition for allowance, and respectfully request that withdrawn method claims be rejoined and examined. If the Examiner believes that any matters remain outstanding, however, applicants respectfully invite the Examiner to call the undersigned to schedule a telephonic interview.

Respectfully submitted,

HELLER EHRMAN LLP

Date: November 23, 2005



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